GRANT APPLICATION MANUAL

PIER-ENVIRONMENTAL AREA: ENVIRONMENTAL EXPLORATORY GRANT PROGRAM

February 2004

PIER[1] ENVIRONMENTAL AREA
ENVIRONMENTAL EXPLORATORY GRANT PROGRAM SOLICITATION

DEADLINE FOR RECEIPT OF APPLICATIONS:
5:00 PM PACIFIC TIME, May 3, 2004

The California Energy Commission's (Commission) PIER Environmental Area (PIER-EA) Team is requesting proposals for research projects through its Environmental Exploratory Grant Program (EEGP). This program is administered through the University of California here after referred to as (EEGP Administrator). The goal of this program is to support the early development of promising, new scientific concepts that have the potential to impact the way we understand and/or address energy-related environmental issues. The program should enhance the current PIER-EA research portfolio by funding focused projects in areas that are not presently being considered. Approximately $750,000 of PIER funds is allocated to Environmental Exploratory Grants. The maximum amount of any individual grant award is $75,000. The EEGP is designed to tap into the broad research community to help ensure that PIER-EA is open to research opportunities in the full range of energy-related environmental issues relevant to the mission of the PIER-EA Program.

The PIER program is made up of six subject areas: Buildings End-Use Efficiency, Industrial/Agricultural/Water End-Use Energy Efficiency, Renewable Energy, Environmentally-Preferred Advanced Generation, Energy Systems Integration, and Energy-Related Environmental Research. The stated mission of the PIER Program is to conduct energy research to improve quality of life by "…providing environmentally sound, safe, reliable and affordable energy services and products…"

In practice, the mission of the PIER-EA program is to develop cost-effective approaches to evaluating and resolving environmental effects of energy production, delivery, and use in California, and to explore how new electricity applications and products can solve environmental problems. The primary objective of this program is to fund projects that will provide foundational information necessary for more-focused, larger-scale research development and demonstration (RD&D) projects that support the PIER-EA mission. The EEGP will assist Commission staff in fulfilling this mission by providing information:

- that supports the early development of promising, new scientific concepts;
- that can be used to determine the need for new PIER-EA planning efforts (roadmaps);
- that leads to an improved understanding of key processes that affect environmental quality as a result of electricity generation, transmission, distribution and use in California; and/ or
- that is necessary for more informed decision and policy making in California.

Grant awards will be made competitively on the basis of a technical and programmatic review process.

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[1] The Public Interest Energy Research (PIER) Program is managed by the California Energy Commission (Commission). The purpose of the program is to provide benefits to California electric ratepayers by funding energy research, development and demonstration (RD&D) projects that are not adequately provided for by competitive and regulated energy markets. More information about the PIER Program can be found at www.energy.ca.gov/pier/energy/index.html.

The research goals conducted in the PIER-EA Program are crosscutting. They are to:

- Improve understanding and develop solutions to reduce the land-use and habitat, aquatic resources, and air quality -related impacts of electricity generation, transmission, distribution and use;
- Improve understanding of the nature and significance of global climate change, its relationship to electricity generation, transmission, distribution and use, and develop strategies and solutions to address identified impacts; and
- Create the knowledge base for a policy framework that encourages solutions to environmental issues through electricity technology development and market innovation.

Within PIER-EA, there are five focus areas: (1) Indoor air quality; (2) Outdoor air quality; (3) Land use and habitat; (4) Aquatic resources; and (5) Global climate change. Research Plans (roadmaps) are being developed in each of these PIER-EA focus areas. For those areas that have finalized roadmaps, there are certain research restrictions that apply to the EEGP Program. There are other topic areas that, even though they may not be tied to a particular roadmap, are being funded and, therefore, are also restricted. These restrictions apply in order to prevent the same proposal from being submitted to multiple programs within PIER, to avoid institutional confusion over which PIER program the applicant is soliciting, and to avoid the duplication of research. See section titled *What projects are not eligible for funding?* for specific instructions on research restrictions.

A detailed description of the PIER-EA program and focus areas (except for indoor air quality) can be found on the Commission web site at www.energy.ca.gov/pier/energy/index.html. The PIER-EA Indoor Air Quality area is under development. The Commission's PIER Buildings End-Use Efficiency Team co-sponsored a national planning effort to identify research and development needs in the area of indoor environmental quality (IEQ). This plan is available to download as an Adobe Acrobat PDF file on the Commission's website. The PIER-EA team is working with the Buildings' team to address particular aspects of the plan. Just as with the roadmaps and other funded projects, certain restrictions regarding the IEQ research plan will apply to the EEGP.

Participation in the EEGP is open to individuals and the following groups: small and large businesses, non-profit organizations, academic institutions, and local, state and federal governmental organizations.

Persons interested in applying for an EEGP grant should consult the material in this Grant Application Manual (GAM). The GAM contains important details on the preparation and submission of proposals, including instructions that must be followed, forms that must be used, and research restrictions.

This manual may be revised periodically to address changes to the grant application process. Applicants must use the current version of the GAM that is posted along with the solicitation notice on the Commission's web site at www.energy.ca.gov/contracts where it is available for viewing and downloading in both PDF and Microsoft Word 97/98 format. A paper copy of this manual is available from the EEGP Administrator upon request.

DEADLINE FOR RECEIPT OF APPLICATIONS:

5:00 PM Pacific Time, 3 May 2004

Submit completed grant applications to appropriate address below.

Address for electronic submission (PREFERRED):
Email: Explore2004@ucop.edu

Address for hard-copy submission:
PIER-EA EEGP Administrator
California Institute for Energy and Environment
University of California, Office of the President
1333 Broadway, Suite 240
Oakland, CA 94612-1918

Contact Information
John Snyder
Phone: (510) 287-3322
Email: Explore2004@ucop.edu

Please note: If you have not received a confirmation of receipt from the EEGP Administrator that your application was received before the deadline, you must call to confirm that your application was received before the deadline. If an applicant claims to have submitted a proposal, but no confirmation notice was sent by the EEGP Administrator, the proposal will not be accepted. Proposals sent to the California Energy Commission will not be accepted.

Applicant Notification List

We recommend that all individuals or organizations that intend to submit a proposal to the current solicitation register their email address with the EEGP Administrator to ensure notification of any late changes to the application process. To register, send an email to Explore2004@ucop.edu and request your email address be added to the "Applicant Notification List". Contact information will only be retained for the current solicitation and must be renewed for each solicitation to which you intend to apply.

Environmental Exploratory Grant Program Solicitation Notification

Individuals and organizations that desire to receive an email notification of future EEGP solicitations or all Commission funding solicitations should go to the Commission's web site at www.energy.ca.gov/contracts and go to the page describing the various Mailing Lists. Follow the instructions for registering your email address with Research and Development Lists.

EEGP Administrator staff welcomes your comments and suggestions for improving this manual at any time. Please contact us if you have any questions or comments about these materials.

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OVERVIEW OF THE GRANT APPLICATION MANUAL

This manual provides the information needed to establish applicant eligibility and to complete the application package. In addition, this manual describes key program features related to: 1) Frequently asked questions about the Environmental Exploratory Grant Program (EEGP), 2) Additional information regarding program features and requirements, 3) Grant application instructions, and the 4) Grant award agreement.

This manual may be revised periodically to address changes to the grant application process. Applicants must use the current version of the Grant Application Manual (GAM) that is posted along with the solicitation notice on the California Energy Commission's (Commission) web site at www.energy.ca.gov/contracts where it is available for viewing and downloading in both PDF and Microsoft Word 97/98 format. A paper copy of this manual is available from the Environmental Exploratory Grant Program Administrator (EEGP Administrator) upon request (see page iii for contact information).

Part 1 answers Frequently Asked Questions (FAQs) about the program; Part 2 contains additional information regarding program features and requirements; Part 3 includes the application forms and instructions for applying for grant funding; and Part 4 contains information pertinent to the Grant Agreement.

Part 1. FREQUENTLY ASKED QUESTIONS ABOUT THE ENVIRONMENTAL EXPLORATORY GRANT PROGRAM

Who can apply for grants?

Participation in the EEGP is open to the following groups:

1. **Individuals:** Must be acting independently. If employed or affiliated with an organization, applicant must have authorization from the organization to pursue project development exclusively as an individual with no rights reserved to the organization. The individual, not the organization, retains all intellectual property rights accrued from the grant project. NOTE: Applicants who are employed by a college/university or affiliated laboratory are not eligible to apply as individuals; submissions ***must*** be made through the applicant's home institution.
2. **Small and large businesses:** The EEGP uses the Federal definition of small as specified in Title 13, Code of Federal Regulations, Part 121 (13 CFR § 121), Small Business Size Regulations (www.sba.gov/regulations/siccodes/). Size requirement varies based on type of business with the average requirement being either prior year gross receipts of less than $5 million or total employees not exceeding 500.
3. **Non-profit organizations:** Possess IRS tax exemption.
4. **Academic institutions:** Public or private post-secondary institutions.
5. **Local, State and federal governmental organizations**: Local, State and federal governmental agencies, federal laboratories or other federally funded research and development centers who are not otherwise prohibited from directly responding to a public Request For Proposals (RFP).

Can I submit a proposal if I received an Exploratory grant in an earlier solicitation?

EEGP Awardees are allowed only one active Exploratory grant at a time. In addition, a person cannot serve as a Principal Investigator on more than one Exploratory grant project at a time.

How much funding is available for each grant and the program?

The maximum amount of any individual grant award is $75,000. Approximately $750,000 of PIER funds will be allocated to EEGP grants.

Are matching funds, royalty payments, or grant repayments required?

No. There are no matching fund requirements associated with the EEGP. However, cost sharing is encouraged. Royalty payments or grant repayments are not required.

What projects are eligible for funding?

Proposals must meet **all** of the following criteria to be eligible for consideration under the Grant Program:

1. Proposal was received by 5:00 PM Pacific Time, 3 May 2004.
2. Proposal is not marked proprietary in its entirety.
3. Proposal is submitted by an eligible applicant.

4. Application does not contain more than one proposal.
5. Proposal does not contain more than one project.
6. Proposal is **not** greater than $75,000.
7. Proposed research clearly fits within PIER-EA and has a clear connection with electricity generation, transmission, distribution, and/or end use.
8. Proposed research does not duplicate research, nor proposes research or activities listed as not eligible, see Research Restrictions Attachment C-1 and section: *What projects are not eligible for funding?*
9. Proposal is complete, as required in Part 3 Grant Application Instructions.
10. Resubmitted proposals adequately address deficiencies noted in prior evaluation.

The following listed types of activities are examples of the sorts of research activities eligible for funding:

1. Improved analytical methods, models
2. Small-scale field demonstration
3. Collection and analysis of existing and new data
4. Literature reviews
5. Surveys or interviews with experts
6. Market or technology assessments/surveys
7. Meta-analysis studies

What projects are not eligible for funding?

The following types of research and activities are NOT eligible for EEGP funding:

1. Development of emissions control technologies (note: emissions controls are funded in other areas of the PIER program)
2. Design of educational curricula, the training of teachers, or other traditional educational activities
3. Environmental impact assessments - as preparation of information required by environmental permit, such as the California Environmental Quality Act or the National Environmental Protection Act
4. Environmental mitigation and data collection and analysis as required by local, State, or federal governmental permit
5. Transportation-related research
6. Nuclear energy research
7. Technology feasibility studies, development, and/or commercialization
8. Marketing and promotion activities
9. Product commercialization or certifications
10. Duplicative research or projects listed in Research Restrictions Attachment C-1

Can I submit more than one proposal in a solicitation? Can I submit more than one project per proposal?

No. Only one proposal per Principal Investigator is allowed and only one project per proposal is allowed. If a Principal Investigator submits more than one proposal or more than one project per proposal, the EEGP Administrator will fail them in the initial screening and return the proposals to the applicant, and the proposal(s) will not be considered for this solicitation.

Can I submit a proposal that seeks to develop a new technology?
The EEGP allows for the development of new software; however, it does not allow for the development or refinement of hardware technologies. For hardware technology proposals, please check the PIER website to find other areas that would be appropriate, for example: the Energy Innovations Small Grant (EISG) Program, the Environmentally Preferred Advanced Generation (EPAG) Program, and/or the Renewables Program.

Are pre-proposal abstracts accepted?
No. It is ok to email brief questions to the EEGP Administrator asking about a particular idea. The EEGP Administrator will not review anything more than a few lines concerning a proposal idea.

Does the EEGP have a specific energy focus?
Yes, in addition to other objectives, all successful proposals must address an environmental issue connected to electricity generation, transmission, distribution, and/or use.

Are the required forms considered part of the 10-page limit for Appendices to the Project Narrative?
No. Forms A – E are not counted as part of the Appendices to the Project Narrative.

When is the deadline for submitting proposals?
The deadline for submitting proposals is 5 PM Pacific Time, 3 May 2004. Applicants are encouraged to submit their proposals early.

How do I submit a proposal?
You can submit electronic or hard proposals. Electronic submissions are preferred. See page iii for contact information. This manual and all required forms for proposal submission can be found at www.energy.ca.gov/contracts.

How do I know that my proposal was received?
The EEGP Administrator will confirm the receipt of all proposals. If you have not received a confirmation, you must call to confirm that your application was received before the deadline. If an applicant claims to have submitted a proposal, but no confirmation notice was sent by the EEGP Administrator, the proposal will not be accepted.

How are grant applications processed?
Grant applications received by the EEGP Administrator by the cutoff date and time will proceed to initial screening as shown in Diagram 1, which depicts the selection process.

How long does it take to receive funding?
It takes approximately four to six months after the cutoff date to complete the proposal evaluation, approval and agreement execution process. Grant agreements may be in place with Awardees within six weeks of the Commission final approval of proposal funding if no unexpected delays are encountered. Research may begin as soon as the grant agreement is fully executed.

How long do I have to complete a project?
Projects need to be appropriately scoped to not exceed 12 months to be suitable for the EEGP. The period of performance on a grant project cannot exceed 15 months; the additional 3 months is to include potential information transfer activities that would occur after the Final Report has been completed. All deliverables, including the Final Report, must be received during the stated term of the grant agreement.

Will I be allowed to extend my project?
Term extensions are not automatic. They require written justification and may adversely impact future follow-on funding decisions.

Can the Commission cancel or amend this RFP?
Yes, if it is in the State's best interest. It is the policy of the Commission not to solicit proposals unless there is a bona fide intention to award Agreements. The Commission reserves the right to do each of the following:

- Cancel this RFP
- Amend or revise this RFP as needed;
- Reject any or all proposals received in response to this RFP; or
- Make no awards.

Whom do I contact for more information?
PIER-EA EEGP Administrator
California Institute for Energy and Environment
University of California, Office of the President
1333 Broadway, Suite 240
Oakland, CA 94612-1918
Phone: (510) 287-3322
Email: Explore2004@ucop.edu

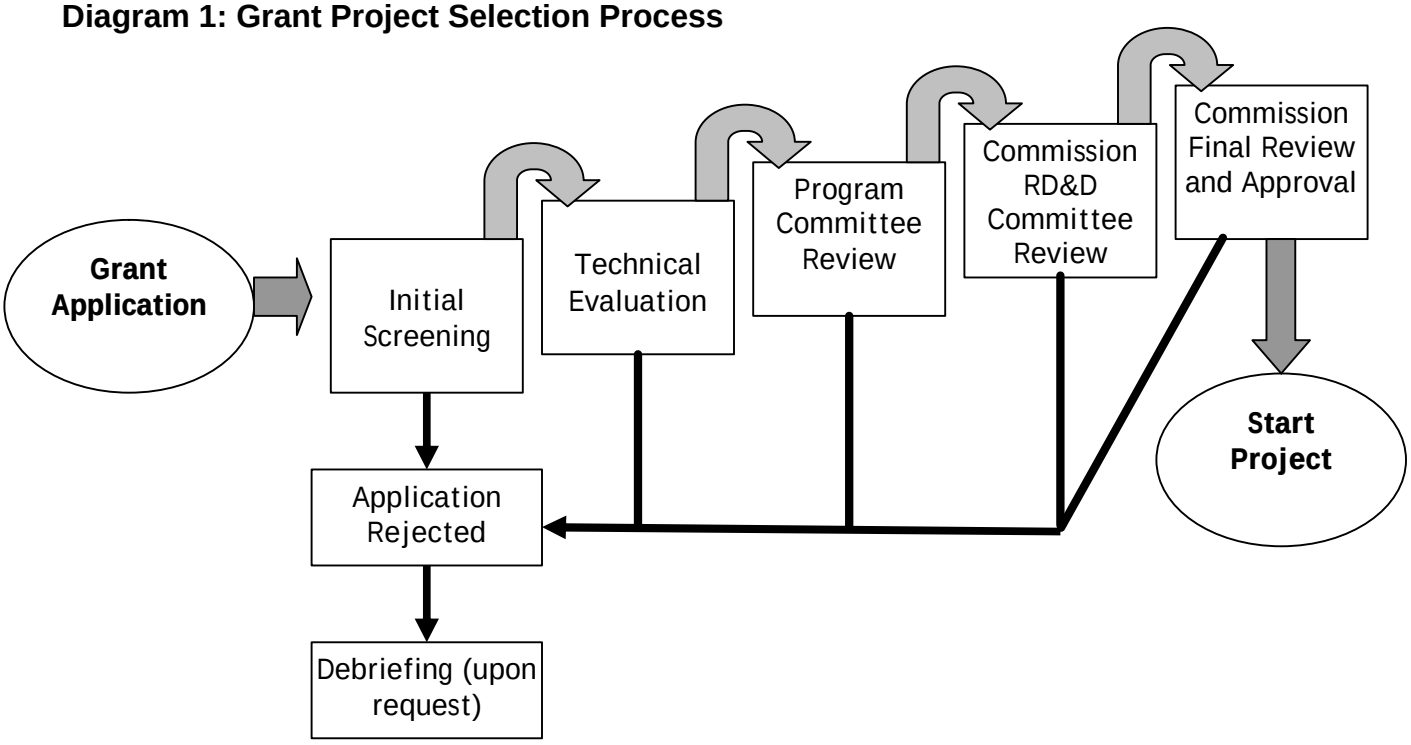
Questions addressed to the EEGP Administrator that have broad applicability to applicants will be posted on the "Frequently Asked Questions" section in the Commission's web site at www.energy.ca.gov/contracts. Questions received up until one week before the application deadline will be answered. Please review the FAQ section periodically for updates.

Part 2. ADDITIONAL INFORMATION REGARDING PROGRAM FEATURES AND REQUIREMENTS

2.1. Grant Application Processing

Grant applications will be processed in the following phases (as outlined in Diagram 1):

Diagram 1: Grant Project Selection Process



2.1.1. Grant Application

Grant applications received on or before the specified cut-off date and time will enter the screening/evaluation process.

2.1.2. Initial Screening

The EEGP Administrator will perform an administrative pass/fail review based on the criteria listed in Table 1 (Initial Screening Criteria) below; ***all criteria must be met*.**

Table 1: Initial Screening Criteria

CRITERIA	SCORE
1. Proposal was received on time	PASS/ FAIL
2. Proposal is not marked proprietary in its entirety	PASS/ FAIL
3. Proposal is submitted by an eligible applicant	PASS/ FAIL
4. Application does not contain more than one proposal	PASS/ FAIL
5. Proposal does not contain more than one project	PASS/ FAIL
6. Proposal is **not** greater than $75,000	PASS/ FAIL
7. Proposed research clearly fits within the Environmental Area of PIER and has a clear connection with electricity generation, transmission, distribution, and/or end use	PASS/ FAIL
8. Proposed research does not duplicate research, nor proposes research or activities listed as not eligible, see Research Restrictions Attachment C-1 and section: *What projects are not eligible for funding?*	PASS/ FAIL
9. Proposal is complete, as required in Part 3 Grant Application Instructions	PASS/ FAIL
10. Resubmitted proposals adequately address deficiencies noted in prior evaluation	PASS/ FAIL

Applications are placed in one of the following two categories after the initial screening:

- Satisfies all screening criteria and proceeds to Technical Review.
- Fails any of the criteria and application is rejected.

2.1.3. Technical Review

Technical reviewers may be from academia, environmental organizations, industry, or government. The applicant may recommend qualified technical reviewers that are independent from the project team and who are capable of conducting an unbiased evaluation with no conflict of interest. Recommendations are advisory in nature. The EEGP Administrator is responsible for the final selection of the reviewers. The identity of the actual reviewers will be kept confidential.

Applications that pass the initial screening will be scored by a minimum of three technical reviewers with recognized expertise in the proposed subject area. Technical reviewers will score each proposal on the degree to which it meets each of the Technical Criteria summarized in Table 2, and described in detail in Attachment A-1 Technical Evaluation Criteria.

Raw Score	Proposal Response
0	Not responsive to the criterion
1-2	Response is minimal
3-4	Responds only marginally to relevant considerations under the criterion
5-6	Responds satisfactorily to most relevant considerations under the criterion
7-8	Responds satisfactorily to all relevant considerations under the criterion
9	Responds completely, accurately and convincingly to all relevant considerations under the criterion
10	Response is complete, specific and superior, both quantitatively and qualitatively

Table 2: Summary of Technical Evaluation Criteria Points 0-10

1. Degree to which the research proposal accurately and completely identifies an important California public interest environmental issue related to the generation, transmission, distribution, and use of electricity.	Weighting Factor: 1.5 Possible Points: 15
2. Degree to which the proposed project identifies Barriers, Issues, and/or Knowledge Gaps.	Weighting Factor: 1.0 Possible Points: 10
3. Degree to which the proposed research identifies clear, meaningful, and measurable objectives.	Weighting Factor: 1.5 Possible Points: 15
4. The Project Narrative (Section 3.4), Products and due dates (Section 3.4 Item 5), Budget Summary and Budget Forms (Section 3.6 and Form C) are appropriate and reasonable.	Weighting Factor: 2.5 Possible Points: 25
5. The Principal Investigator and the Project Team are well qualified to conduct the project (Form D).	Weighting Factor: 1.5 Possible Points: 15
6. Degree to which the project is likely to succeed.	Weighting Factor: 1.0 Possible Points: 10
7. Overall technical merit.	Weighting Factor: 1.0 Possible Points: 10
Maximum Technical Reviewer Points:	100

After receiving the technical reviews and scores, the EEGP Administrator calculates the averaged score. The scores will be used to establish the preliminary ranked-order list of proposals that will be presented to the EEGP Programmatic Committee. The EEGP Administrator determines the appropriate cut off line for proposals to be considered in the next stage of review by selecting those proposals with an averaged score that meet the minimum 60 point requirement, up to the top fifteen proposals (maximum). The EEGP

Administrator sends the rank-ordered list of proposal scores, proposal abstracts, and other relevant information to the EEGP Programmatic Committee.

2.1.4. Environmental Exploratory Grant Program Programmatic Committee

The EEGP Programmatic Committee (Programmatic Committee) is responsible for (1) producing the preliminary scored and ranked list of projects for funding consideration by the Commission, (2) reviewing the EEGP policies, procedures, and documents, and (3) making recommendations for changes to the EEGP Administrator. The Programmatic Committee will be composed of individuals experienced in policy and programmatic activities related to the PIER-EA Program. Members of the Programmatic Committee will include, at a minimum, the EEGP Administrator and Commission staff (to be selected by the PIER-EA Program Manager). They will help ensure that the projects recommended for funding are in alignment with PIER-EA and enhance the current portfolio of projects.

The Programmatic Committee will first re-evaluate the proposals to confirm that they satisfy all of the criteria listed in Table 1 (Initial Screening Criteria) and disqualify from further consideration any proposals that fail any of the screening criteria. Programmatic reviewers will score the merits of each proposal using the Programmatic Evaluation Criteria summarized in Table 3, and described in detail in Attachment B-1 Programmatic Evaluation Criteria.

Proposals that pass screening will then be evaluated and scored using the Programmatic Evaluation Criteria, with a maximum of 100 points available. For each proposal, the EEGP Administrator will calculate the averaged score of the programmatic reviews to get the final total score. These scores will be used to establish the final recommended rank-ordered list of proposals which will be presented to the RD&D Committee. The Programmatic Committee will also review the EEGP policies, procedures, and documents and make recommendations for changes to the EEGP Administrator.

Table 3: Summary Programmatic Evaluation Criteria Points 0-10

1. Degree to which the research proposal accurately and completely identifies an important California public interest environmental issue related to the generation, transmission, distribution, and use of electricity.	Weighting Factor: 1.5 Possible Points: 15
2. Degree to which the proposed project identifies Barriers, Issues, and/or Knowledge Gaps.	Weighting Factor: 1.0 Possible Points: 10
3. Degree to which the proposed research identifies clear, meaningful, and measurable objectives.	Weighting Factor: 1.5 Possible Points: 15
4. The Project Narrative (Section 3.4), Products and due dates (Section 3.4 Item 5), Budget Summary and Budget Forms (Section 3.6 and Form C) are appropriate and reasonable.	Weighting Factor: 1.5 Possible Points: 15

5. The Principal Investigator and the Project Team are well qualified to conduct the project (Form D).	Weighting Factor: 1.0 Possible Points: 10
6. Degree to which the project is likely to succeed.	Weighting Factor: 1.0 Possible Points: 10
7. Overall merit.	Weighting Factor: 2.5 Possible Points: 25
Maximum Programmatic Reviewer Points:	100

2.1.5. Research, Development and Demonstration Committee (RD&D Committee)

The EEGP Manager discusses the proposal selection process, the final rank-ordered list, and the funding recommendations from the Programmatic Committee with the RD&D Committee. The RD&D Committee may make a funding recommendation to the full Commission based on these recommendations and on other Commission program considerations. The RD&D Committee may disapprove any or all of the recommendations, for any or all of the following reasons:

- The proposal is counter to the development and implementation of a robust public interest RD&D portfolio of projects that address California's energy needs by focusing on the RD&D plans covering the PIER subject areas.
- The proposal is counter to the objective of balancing risks, timeframes and public benefits in a manner consistent with California's energy policies.
- The proposal is counter to the objective of creating a public interest RD&D knowledge base and disseminating information that will allow citizens, businesses, government and other entities to make informed decisions concerning energy technologies and services.
- The proposal is counter to the objective that the public interest RD&D program is connected to the market.
- The proposal is counter to the energy policies of the State of California including, but not limited to, the policies for PIER and for energy in California as expressed in the following legislation and reports: AB 1890 (Chapter 854, September, 1996), SB 90 (Chapter 905, October, 1997), SB 1038 (Chapter 515, September, 2002), the current Warren-Alquist Act, Strategic Plan Report on Implementing the RD&D Provisions of AB 1890 (P500-97-007, June 1997), 1997 California Biennial Energy Plan (P105-97-001), and the Five-Year Investment Plan, 2002 Through 2006 (P600-01-004), Integrated Energy Policy Report (Publication Number: 100-03-019F), Energy Action Plan (http://www.energy.ca.gov/2003_energy_action_plan/index.html)

Any proposal disapproved by the RD&D Committee will not affect the score of any other proposal. The RD&D Committee decides which ranked proposals merit forwarding to the full Commission for funding consideration. The RD&D Committee reserves the right to skip over disapproved proposals and to recommend funding proposals ranked lower on the list.

2.1.6. Energy Commission Business Meeting

The final rank-ordered list and the recommendations from the RD&D Committee will be considered at a regularly scheduled business meeting. The Commission, at the Business Meeting, reserves the right to reject any or all of these recommendations and to select any proposal from the final rank-ordered list. Any proposal rejected by the Commission will not affect the score of any other proposal.

Proposals that receive Commission approval for funding will receive an award letter and be posted on the Commission web site.

All materials submitted in response to an EEGP solicitation become the property of the State of California for disposition purposes. Except for a file copy retained for future reference, all hard copies of the grant applications will be shredded at the end of the evaluation process.

2.1.7, Schedule of Key Activities

Key Activities	Due Date/ Key Date 2004
Release and advertise RFP & GAM (Email lists, CEC notice, on web sites)	February 2
Workshops	See notice on Commission website
Grant Applications Due	May 3
Proposal Screening	approx 4 wks – May 31
Technical Review of Proposals	approx 6 wks – July 12
Technical Committee Review of Proposals	approx 5 wks – August 16
Recommendation to & approval from RD&D	approx 5 wks – August 26
Business Meeting Approval of projects	approx 6 wks – October 6
DGS Approval	approx 2 wks – October 20
Notify of Grant Project Approval	approx 4 wks –(Oct 22)
CIEE subaward agreement with Awardees	approx 6 wks – (Dec 3)

2.2. Unfunded Proposals

Following the Commission approval of project funding, those applicants whose proposals were not funded will receive a letter from the EEGP Administrator that describes the reason(s) for rejection.

2.3. Resubmitted Proposals

Applicants who desire to resubmit a proposal that was not funded in an earlier EEGP solicitation must satisfy the following requirements:

1. Receive a status letter from the EEGP Administrator that states that the proposal is eligible for resubmission.

2. Comply with all new requirements specified in the GAM posted with the solicitation for which the proposal is being resubmitted. Applicants cannot use the old GAM that was used when the proposal was originally submitted.
3. Provide a resubmission summary (5 pages max.) in table or outline format that identifies and responds to the concerns noted in the previous evaluation of the proposal (see sample table format below).

SAMPLE RESUBMISSION SUMMARY

Concerns	Response	Page
1) Project team lacks experience in fuel cells.	Added Dr. Smith to team, see attached resume.	Form D
2) Theory of operation was not explained with sufficient technical detail to enable assessment of its technical merit.	Added expanded technical description of theory of operation.	Pg 4-5
3) The material to be tested was already evaluated by Dr. Smith.	*Rebuttal*: Dr. Smith only tested for properties A & B whereas this project will look at properties C& D.	N/A

A resubmission summary that fails to adequately address all significant concerns noted in the prior evaluation will be sufficient grounds to **fail initial screening**. The resubmission summary pages do not count against the allowed page count for the narrative or appendices. When possible, resubmitted proposals that had advanced to technical review are sent back to the original technical reviewers for rescoring based on the additional information.

2.4. Grant Applicant Feedback and Disputes

An applicant may obtain a debriefing regarding an unfunded proposal in the following two ways:

1. By contacting the EEGP Administrator to discuss the proposal.
2. By submitting a written (letter or email) list of questions or issues within 30 days of receiving the status letter on the proposal in question. The EEGP Administrator will respond to written inquiries in writing (letter or email) within 30 days after the request has been made.

2.5. Policy Regarding Follow-On Funding

The EEGP was designed to serve as a one-time funding source for projects seeking to establish foundational information necessary to justify larger funding commitments. Successful projects may be eligible for follow-on awards in the PIER program, outside of the EEGP. Performance on EEGP grants will be a consideration in any future request for funding through the PIER Program.

2.6. Modifications

To make a project acceptable, the Commission or EEGP Administrator retains the right to negotiate minor changes to a proposal's Project Narrative and/or budget at any time during the evaluation, approval and agreement execution process. Such modifications would be made to:

- Adjust the project scope to produce the information needed;
- Adjust project budget to comply with guidelines related to authorized expenses;
- Avoid duplication of work;
- Reduce administrative requirements; and/or
- Include tasks necessary for project success.

2.7. Intellectual Property Rights

Deliverables and reports specified for delivery become the property of the Commission. All data produced under the grant agreements are the property of the Awardee, subject to use rights by the Commission.

Patent rights for any inventions are the property of the Awardee whose employees or researchers are inventors of such invention, subject to the Commission's use of rights for Governmental Purposes. (See Sample Grant Agreement for details on Intellectual Property). The Awardee must disclose to the EEGP Administrator, on a confidential basis, all such inventions. The EEGP Administrator will ensure that all personnel who handle, screen or review proposals containing proprietary/confidential information keep this information confidential.

Part 3. GRANT APPLICATION INSTRUCTIONS

3.1. Grant Application Package Checklist

The application package must be assembled **in the order shown in the checklist below.**

Additional instructions for filling out the forms are provided with each form. Provide all information necessary to allow adequate review of the proposal, including all information requested in this GAM. Do not incorporate by reference information contained in videotapes or in other extraneous materials. The full application package submitted will be the basis for approving or denying funds for the proposed project.

Electronic submission is preferred. However, if your institution requires hardcopy submission of a proposal application, you may mail the original and 8 full single-sided copies including any supporting documents. The original should be bound only with a spring clip; the other eight copies should be bound only with a staple in the upper left corner. **No covers or other types of bindings are allowed**.

For electronic submission only: Cover email must be from an institutional representative who is authorized to contractually commit the submitting organization to performing the proposed work; this must be the same individual listed on the Grant Application Cover Page. The email must identify the Principal Investigator and the title of the proposal, and should state the following: "The attached application constitutes [Institution Name]'s official submission of a proposal in response to RFP No. CIEE-EXP-2004." The email must give the title of the authorized institutional representative (e.g., Contracts and Grants Officer), and provide contact information, including address, phone, and fax. If this is a multi-institution submission, the email must also state that the lead (submitting) institution has received concurrence on the proposed work from the authorized institutional representatives of all participating institutions. **Please note: Proposals may be electronically (Microsoft Word preferred) submitted as two or three file attachments:**

- **The entire proposal including: Form A (Cover Page), Project Narrative, Appendices to Narrative, Forms B, C, and D, Key Personnel Resumes, and Form E (optional); Microsoft Word is preferred. If you have prepared the budget using the Excel template, please attach that as a separate file.**

- **The Project Summary must be submitted as a separate, stand-alone file attachment to the email.**

If an applicant claims to have submitted a proposal, but no confirmation notice was sent by the EEGP Administrator, the proposal will not be accepted. Proposals sent to the California Energy Commission will not be accepted.

APPLICATION CHECKLIST

- ☐ Form A: Grant Application Cover Page *(signed and dated, if submitted in hardcopy)*
- ☐ Project Summary *(two page maximum, single-spaced; insert page break after project summary - if submitted electronically, must be separate file.)*
- ☐ Project Narrative *(ten page maximum, single-spaced)*
- ☐ Appendices to Narrative *(optional - ten page maximum, single-spaced.)*
- ☐ Form B: Certifications
- ☐ Form C: Proposed Budget Summary *(attach short budget narrative if required)*
- ☐ Form D: Project Personnel and Team Qualifications (one page maximum)
- ☐ Key Personnel Résumés (Curriculum Vitae) *(A maximum of two pages per person. Required for Principal Investigator, Project Manager, and other technical personnel critical to the project's success.)*
- ☐ Form E (*electronic submission only*): Recommended Reviewers

If submitting hardcopy, the following optional items should be loose or clipped to the original application package and not bound with the proposal copies:

- ☐ Cover Letter *(optional; one copy)*
- ☐ Form E: Recommended Reviewers *(optional; one copy)*

Faxed copies will not be accepted.

3.2 Formatting Requirements for All Text Sections

All electronically submitted documents should be in Microsoft Word. Page margins no less than 1", font size no smaller than 12 points; either single- or double-spaced is acceptable. Page numbers on the upper right-hand corner of each text page. Single-sided.

3.3. Project Summary

Provide a separate, two-page, non-proprietary summary description of the grant project. Title the page with "Project Summary" followed by the project title and name of the Principal Investigator and submitting institution. The project summary should summarize the key items requested in the recommended narrative format specified in Part 3.4. The description should be written at a level that could be understood by the general public with sufficient information to stand on its own. All projects selected for funding will have a project summary posted on the Commission web site at the onset of the project, as well as a final project summary posted at the end of the project. You must make a notation on the page if the project summary contains proprietary information. If a proposal containing proprietary information is selected for funding, you will be asked to provide a non-proprietary version of the project summary for web publication.

3.4. Project Narrative

Provide a project narrative that is no more than 10 pages in length (not counting reference, acronyms list, or Attachment Forms A-E) that describes the project plan in detail. Key supporting documents referenced in the narrative such as photos, charts, drawings, blueprints, graphics, letters of support and excerpts from key articles may be included as appendices to the project narrative. Appendices are restricted to a maximum of 10 pages. Forms A – E are not counted as part of the Appendices to the project narrative. The project narrative must address the content items identified in the following recommended outline; however, the sequence in which the information is presented may be determined by the applicant. Project narratives that cite past research, trade publication articles, etc. must include a reference list. All acronyms should be spelled out in full when first cited.

Project Narrative

1) Project Goal

Accurately and completely identify:

- the importance of your research as it relates to an important California public interest environmental issue related to the generation, transmission, distribution and use of electricity;
- the environmental problem that is being addressed and clearly demonstrate the electricity connection;
- the energy-related environmental public benefits that could be derived by further research built on the findings from the proposed project.

2) Project Objective(s)

Describe clear and measurable objectives that demonstrate how the project will:

- Support the early development of promising, new scientific concepts;
- Lay the foundation for larger-scale research;
- Be useful in determining the need for new PIER-EA planning efforts (roadmaps);
- Improve understanding of key processes that affect environmental quality in California as a result of electricity generation, transmission, distribution, and/or use; and /or
- Provide information in key areas necessary for more informed decision and policy making.

3) Impact on **Environmental** Problem and/ or **Energy** Problem / Benefit to California rate payers and electric market (s)

- Quantify the potential impact of the project on the environmental problem being addressed.
- If unable to quantify, describe in qualitative terms the types of benefits for California that the project will produce for addressing the environmental problem targeted by this project.
- Where appropriate, quantify the potential impact to the electric consumer in terms of savings due to reduced cost per kWh, reduced kWh consumption, increased reliability, etc.
- Where appropriate, quantify the potential benefit in terms of energy and cost savings to the state of California as a whole.

4) Scientific and/or Technical Issues, Barriers, Knowledge Gaps, and State-of-the-Science

- Identify the scientific and/or technical obstacles.
- Summarize the relevant results of a current literature/Internet search. Point out where your work will extend the existing knowledge base.
- Compare existing processes, services, and/or products that perform the same or similar functions as the proposed concept. Clearly show the relevant differences (e.g., cost, reliability, efficiency, functions, etc.). We recommend that comparison data be placed in table format when practical.

5) Primary Tasks and Deliverables

- Provide a description of the work that will be conducted to accomplish the primary tasks.
- Provide a description of key deliverables (e.g., quarterly reports, draft and final reports, draft and final two-page project summary).
- Indicate when deliverables will be submitted.

Applicants should take into consideration the evaluation criteria listed in Attachments A-1 Technical Evaluation Criteria and A-2 Programmatic Evaluation Criteria when writing the narrative.

3.5. Proprietary Information

If the proposal contains proprietary information, as indicated on Form A, Item H, then the applicant must clearly mark those sections in the application. For electronic submissions, the footer of each proprietary page or section must contain the words "Contains proprietary information," and the appropriate text should be highlighted. For hardcopy submissions, this could be in the form of a classification stamp at the top and bottom of classified pages or boxes placed around specific paragraphs or annotations in the margin that clearly identify those sections that are proprietary. Applicants are encouraged to limit the proprietary information to only that which is necessary to adequately assess the technical merits of the proposed concept. Classifying an entire proposal as proprietary is not acceptable.

The Program Administrator will ensure that all personnel who handle, screen or review proposals containing proprietary/confidential information keep this information confidential.

3.6. Budget Narrative

Attach a budget narrative to Form C (Proposed Budget) to explain any expenses listed in Items D, E, F,G, and I (subcontracts/consultants, equipment, travel, miscellaneous expenses, and indirect costs). See instructions for Form C.

Part 4. GRANT AWARD AGREEMENT

4.1. Grant Agreement

Once a proposal is approved for funding by the Commission, the EEGP Administrator will send an award notification letter to the applicant containing a list of any outstanding issues that need to be resolved prior to executing the agreement. The agreement will be mailed under separate cover once all outstanding issues have been resolved. The agreement must be signed by authorized representatives of both parties before work may begin or expenses reimbursed.

The EEGP Administrator intends to base agreements on the Sample Grant Agreement and Exhibits A and B. All applicants should review the standard terms and conditions contained in the Sample Grant Agreement prior to submitting a proposal, and should be prepared to identify those issues that need to be resolved in the event of an award. Failure to come to an agreement on the terms, conditions and requirements of the grant agreement may be grounds to cancel the award.

4.2. Grant Performance

Once a grant is approved for funding, the Awardee's personnel and any subawardees performing work under the award shall be responsible for exercising the degree of skill and care required by customarily accepted good professional practices and procedures used in scientific and engineering research fields. The EEGP Administrator will approve the invoices based on grant performance and receipt of deliverables.

4.2.1. Reimbursement of Invoices

EEGP funds are distributed for reimbursement of actual project expenses in arrears. Invoices for reimbursement should be submitted on a monthly or quarterly basis to the EEGP Administrator for periods not less than one month. Reimbursement invoices submitted to the EEGP Administrator will be paid within 30-60 days of receipt, unless contested. The EEGP Administrator retains the right to withhold payment for reasons including but not limited to the following: (a) progress reports are not current; (b) the progress reports contain insufficient detail to assess Awardee's progress; (c) there is evidence of poor performance, or (d) billing is submitted that does not conform with the approved budget.

The last payment will not be paid to the Awardee until the EEGP Administrator has reviewed the final deliverables and judged them acceptable.

4.2.2. Deliverables

Awardee must submit all deliverables to the EEGP Administrator. The minimum required deliverables include:

(a) Progress Reports: A progress report is required following the end of every standard calendar quarter; if a project begins in the middle of a calendar quarter, the progress report will cover whatever work has been done during the quarter. Progress reports must be delivered within 10 business days of the end of each standard calendar quarter.

(b) Final Report: A draft report is to be submitted for review and comments (includes abstract, executive summary, and main report). The EEGP Administrator will review the draft report and provide written comments and recommendations. The Awardee is responsible for incorporating the recommended changes in the Final Report. The Final Report will likely be posted on the Commission website,

(c) Final Project Summary: A draft and final non-proprietary brief summary description of the grant project is to be submitted for review and comments along with the draft and Final report. The project summary should summarize the final results of the key items and follow the format provided by the EEGP Administrator.

4.2.3. Tax and Legal Issues

If in doubt, Awardees should consult with legal and tax advisors (at the Awardee's expense) to fully understand the legal and tax obligations incurred when entering into a grant contract.

California Energy Commission PIER-EA Environmental Exploratory Grant Program **GRANT APPLICATION COVER PAGE**	**FORM A**

A Project Title: _____

B. Project Focus Area: (*Indicate the one that most applies) [for electronic submission: select and press "n" to check box]*

- ❑ Indoor Air Quality
- ❑ Outdoor Air Quality
- ❑ Aquatic Resources
- ❑ Land Use and Habitat
- ❑ Global Climate Change
- ❑ Other (Specify: _____)

C. Applicant Category: *[For electronic submission: select and press "n" to check box]*

- ❑ Individual
- ❑ Small Business
- ❑ Large Business
- ❑ National Laboratory
- ❑ Academic Institution
- ❑ Non-Profit
- ❑ State Agency
- ❑ Federal Agency
- ❑ Other (Please specify: _____)

D. Grant Funding Requested: $_____ *(maximum allowed $75K)*

E. Proposed Project Duration: _____ *(maximum duration 12 months)*

F. Principal Investigator

Name:	Address:
Phone: Fax:	
Email:	
Organization:	
Position/Title:	

G. Authorized Institutional Representative: *(serves as point of contact for contractual issues)*

Name:	Address:
Phone: Fax:	
Email:	
Organization:	Tax Payer ID#:
Position/Title:	
Signature:	Date:

H. Proprietary/Confidential Information:

- ❑ NO – Proposal does not contain proprietary information, unrestricted distribution authorized.
- ❑ YES - Proposal contains proprietary information; restrict distribution and disclosure. (If proposal is marked proprietary init entirety, it will be rejected. *Clearly mark and label those sections that are proprietary on all copies)*

FORM A
INSTRUCTIONS

Grant Application Cover Page

Item A: Project Title

Item B: Project Focus Area
Check one box that corresponds to the PIER-EA Program area that is most representative of the proposed work.

Item C: Applicant Category
Check one box that represents the category you are applying for a grant under. The applicant categories are defined in Part 1 of this manual. The category marked in Item C must match the information certified on Form B.

Item D: Grant Funds Requested
Specify the amount of grant funds needed to complete the project, not to exceed $75K. All project costs must be covered by this amount, unless the applicant or other sources are contributing funds to this project.

Item E: Proposed Project Duration
Specify how many months you need to complete the project. The project's duration cannot exceed 12 months. Include the time it takes to complete the final report after all data collection and analysis functions have been performed.

Item F: Principal Investigator

Item G: Authorized Institutional Representative
This individual must be authorized to commit the organization to perform the proposed work. If the application is submitted via hardcopy, this person must sign the form; if it is submitted electronically, the cover email must be from the authorized institutional representative (see instructions in Section 3.1 Grant Application Package Checklist for email contents and instructions). Include Taxpayer ID number.

Item H: Proprietary/Confidential Information
Indicate if the proposal contains any proprietary information that requires protection. Clearly mark and label those sections that are proprietary on all copies. **If a proposal is marked proprietary in its entirety, it will be rejected.**

California Energy Commission PIER-EA Environmental Exploratory Grant Program **CERTIFICATIONS**	**FORM B**

A. APPLICANT ELIGIBILITY CERTIFICATION

- ❑ **Individual** Must be acting independently. If employed or affiliated with an organization, applicant has authorization from the organization to pursue grant research exclusively as an individual with no rights reserved to the organization. The individual, not the organization, retains all intellectual property rights accrued from the grant project *(if employed or affiliated with an organization or business, specify in the space below any financial interest the organization or business has in the proposed project)*. NOTE: Applicants who are employed by a college/university or affiliated laboratory are not eligible to apply as individuals; submissions ***must*** be made through the applicant's home institution.
- ❑ **Small Business** PIER uses the Federal definition of small as specified in Title 13, Code of Federal Regulations, Part 121 (13 CFR § 121), Small Business Size Regulations (www.sba.gov/regulations/siccodes/). Size requirement varies based on type of business with the average requirement being either prior year gross receipts of $5 million or total employees cannot exceed 500 *(in the space provided below, specify your SIC Code and either the number of employees or gross revenues for prior year that qualify your organization as a small business).*
- ❑ **Large Business**
- ❑ **Non-Profit Organization** Possess IRS tax exemption.
- ❑ **Academic Institution** Public or private post-secondary institutions.
- ❑ **Local, State and federal governmental organizations** Local, State and federal governmental agencies, federal laboratories or other Federally Funded Research and Development Centers

Item (A) Information:

B. MULTIPLE AWARDS FOR THE SAME OR SIMILAR RESEARCH

- ❑ Checking this box certifies that the grant applicant acknowledges that in the event they receive an EEGP grant they agree to notify the EEGP Administrator if they enter into a concurrent contract that requires the same or similar research as proposed in this application and in this event further agrees to limit reimbursement from the EEGP to costs that are not covered by other awards. If the applicant has previously received State or federal funds (such as SBIR awards) to develop the proposed concept, **attach a short description of the work completed and provide contact information (phone and/or email address) for the project managers at the funding agencies**.

C. CONCEPT ORIGINALITY

- ❑ Checking this box certifies that the grant applicant has already performed a thorough search of the existing published literature and has determined that the proposed concept is original.

FORM B
INSTRUCTIONS

Certifications

Item A: Applicant Eligibility Certification

You must check one of the six boxes to indicate the applicant eligibility criteria under which you are applying. Even if you qualify under more than one criteria (i.e., sole proprietor vs. individual), indicate the **one** that best fits your situation. Different categories have different restrictions (i.e., ability to invoice indirect expenses and ownership of intellectual property) to which the applicant will be held. Provide the additional information requested (SIC codes, number employees, gross revenues etc.) in the space provided. Fraudulent misrepresentation of eligibility is grounds for immediate termination of award.

Item B: Multiple Awards for Same or Similar Research

This certification prohibits applicants from seeking reimbursement from more than one funding source for the same work and must be certified in order to qualify. Applicants must disclose if they have previously received State or Federal funding for work related to the EEGP proposal. Prior performance will be an evaluation consideration.

Item C: Certification of Concept Originality

This certification is to ensure the grant applicant has performed a reasonable search of the published literature and patents to determine that the proposed concept and research is original.

California Energy Commission
PIER-EA Environmental Exploratory Grant Program
PROPOSED BUDGET SUMMARY

FORM C

Project Title: _____
Performing Institution: _____
Principal Investigator: _____
Period of Performance: _____

		Effort WM or FTE	Rate	Est Cost	Total Cost
A.	DIRECT LABOR				
	PI:	0.00	0	0	
	_____	0.00	0	0	
	TOTAL Labor	0.00			0
B.	FRINGE BENEFITS	Rate	X Base	Est Cost	
		0.0%	0	0	
	TOTAL Fringe Benefits				0
C.	TOTAL SALARIES AND FRINGE (A+B)				0
D.	SUBCONTRACTS and CONSULTANTS (Explanation attached)				0
E.	EQUIPMENT and SINGLE PURCHASES over $5,000 (Explanation attached)				0
F.	TRAVEL (Explanation attached)				0
G.	MISCELLANEOUS EXPENSES (Explanation attached)				
	G.1 _____			0	
	G.2 _____			0	
	TOTAL Miscellaneous Expenses				0
H.	TOTAL DIRECT COSTS (C thru G)				0
I.	INDIRECT COSTS	Rate	X Base	Est Cost	
		0.0%	0	0	
	TOTAL Indirect Costs				0
J.	TOTAL COSTS (H+I)				0

FORM C
INSTRUCTIONS

Proposed Budget and Narrative

General Information:
This budget form is available as an Excel file on the Commission's web site at www.energy.ca.gov/contracts with the math formulas inserted. Attach a budget narrative to this form if budget entries are made in Items D, E, F, G, or I.

The following **costs** are generally **not allowed** in EEGP projects:

- Costs incurred by applicants in preparing proposals (including travel and personal expenses).
- Project debts or costs incurred before Commission approval and the effective date of the grant agreement.
- Costs for lobbying or attempting to influence any public official.
- Costs associated with protecting intellectual property.
- Costs to offset obligations of individuals or work not associated with the approved project.
- Procurement of general-purpose equipment (e.g. general-purpose computers, software, fax machines, copiers, office furniture and tools) is generally not allowed. If such equipment ***is*** essential to the project, applicant must show that purchase is more cost-effective than leasing or renting the equipment.
- Costs of news releases announcing the results of an EEGP project.
- Relocation costs of employees or staff members.
- Financial aid, scholarships, or fellowships, except when paid under established campus policy as part of the compensation for research performed in the EEGP project during the term of the contract.

Item A. Direct Labor
Labor expenses incurred by the Awardee's personnel and team members during the term performance period of the grant agreement are allowable to the extent that the compensation is reasonable for each individual's skill level and experience and conforms to consistently-applied compensation policies of the individual's organization.

Provide name and title of all senior research personnel. For as-yet unidentified persons, state the personnel category (e.g., technician, graduate student, administrative assistant, machine shop).

Show effort level (e.g., FTEs, work-months (WM), or hours), rate, and cost for each researcher or personnel category. If both academic year and summer rates are used, show separately and identify as such (e.g., "Student, summer" and "Student, acad yr."). For pooled effort recharges, average pay rates are acceptable provided they are noted in the Budget Explanation page.

Item B. Fringe Benefits
Fringe benefits are allowable as a direct cost (if not included as an indirect cost) in proportion to the salary charged to the grant and provided the expense is based on formally established and consistently applied compensation policies of the individual's organization. If a student receives compensation for hours worked and tuition fees, show the tuition as a separate line in Item H. Applicants who apply as an "*Individua*l" should not charge Fringe Benefits, and instead should show a fully loaded hourly rate.

Show fringe rate and base to which rate applies. If different rates apply for different labor categories or time periods (e.g., career vs. student, summer vs. academic year), show separately and discuss on Explanation page.

Item D. Subcontracts and Consultants
No more than 40% of an award may be outsourced, and all subcontractors must comply with the applicable clauses in the grant agreement. If a subcontractor has been identified who is critical to the success of the project, the application must include a letter from the subcontractor confirming that they concur with the statement of work and intend to participate in the project. Payments to consultants are allowed provided the costs are reasonable and commensurate with the services provided and are included and itemized in the approved budget for the grant. Contracts shall not be made with University of California employees without prior written approval of the EEGP Administrator.

- Subcontracts: On Explanation page, give name of each subcontractor, a brief description of work, and total cost. Include curricula vitae for the subcontractor's key personnel. For any subcontract over $10,000, attach a complete budget following the same format outlined here.

- Consultants: On Explanation page, state the name of each consultant (or function, if an individual has not yet been identified), effort level (hours or days), and rate charged. Give brief description of activities/tasks (e.g., "responsible for integrating time-of-use curves into calculation tool"). Include Résumés (Curriculum Vitae) for any consultant who has been identified.

Item E. Equipment and Single Purchases over $5,000
Major equipment is defined as non-expendable, tangible property which has an acquisition cost of $5,000 or more per unit and a useful life of two years or more. Major equipment purchases and items costing in excess of $5,000 will be considered allowable as direct costs provided that (1) the item is necessary for completing the primary objectives of the grant research, and (2) renting or leasing the item at lower cost is not an option.

All major equipment and single purchases over $5,000 must be itemized in the budget narrative. All equipment with a unit cost of $5,000 or more will be purchased exclusively by the EEGP Administrator and will be subject to the following terms and conditions:

- Title to all non-expendable equipment purchased with EEGP funds shall vest with the EEGP Administrator.
- The Awardee shall assume all responsibility for maintenance, repair, destruction and damage to equipment while in the possession of or subject to the control of the Awardee (costs for maintenance and insurance may be borne by the grant).

- At the end of the original project, the Awardee shall contact the EEGP Administrator for equipment disposition instructions. This shall occur concurrent with the filing of the final report and payment of retention will not be made until equipment disposition is finalized. If no disposition instructions are provided within 120 days after end of the project period, the Awardee shall have no further obligation to the EEGP Administrator regarding the equipment

Item F. Travel
Travel costs are allowable if they are required to conduct the research and are deemed to be reasonable for a small grant effort. For travel to be reimbursed, it must occur within the performance period of the grant agreement. Reimbursement of travel expenses will be in accordance with the requirements in this section and the invoicing guidelines contained in Section 4.2.1.

For each anticipated trip, give *specific* information regarding destination, purpose of the trip, a brief justification explaining the benefits to the project associated with the trip, estimated air fare/transportation costs, lodging/per diem, registration fees, and other related costs.

Conference travel: Conference travel is allowable if it occurs towards the end of the project for the purpose of presenting a paper on the results of the research. No more than one conference will be covered. International travel to conferences will not be reimbursed. Conference travel should not make up more than 3% of the total budget.

Modifications to the travel budget may be required in order for a grant agreement to be finalized. The EEGP Administrator and Awardee are responsible for coming to agreement. If agreement cannot be made, the applicant risks cancellation of the award.

Modifications to the travel budget during the course of the grant must be approved in advance by the EEGP Administrator.

Item G. Miscellaneous Expenses

Include office supplies, postage, telephone, miscellaneous operating costs, and low-value materials under $500 that are associated with the work. Separately list graduate student tuition remission, workshops, and departmental recharges and burdens. Details must be provided in the budget narrative; failure to include an explanation may result in disqualification of the application. Other items to include:

- Equipment Rental or Lease: The cost of renting or leasing equipment is allowable provided the charges are reasonable. General-purpose equipment (i.e., computers, printers, furniture, test equipment, tools, software) essential to the project may be rented but not purchased unless renting is more expensive or not practical. In those instances where a case can be made for purchasing general-purpose equipment, provide the rationale in the budget narrative. Disposition of general purpose equipment at the end of the project will be determined by the EEGP Administrator.
- Facility Lease/Modification: The cost of leasing or renting commercial workspace is acceptable; however, individuals cannot charge rent for any portion of their private residence, and a business that charges an indirect rate cannot charge a lease expense for space or equipment that they already own. EEGP funds cannot be used to fund construction or facility improvements. However, rearrangement and alteration costs to adapt space or utilities within a completed structure to accomplish the objective of the grant-supported activity, which do not constitute construction, and aggregate to less than $10,000, may be allowable provided that the requirement is clearly defined in the budget narrative.

Item I. Indirect Costs

Not applicable for Individuals, who should include appropriate overhead costs in their fully-loaded labor rate. Small businesses, non-profits, and academic institutions that choose to recover indirect costs may use an established rate

based on the following priority, and must indicate in the Budget Narrative which rationale they are using:

1. The rate used when doing similar research for the State of California or other state government;
2. The rate used when doing similar research for the Federal Government; or
3. The rate used and consistently applied to similar research contracts performed in the civilian sector.

If no indirect rate has been established, then a maximum indirect rate of 20% will be allowed on this grant. Excessive indirect rates that are deemed to adversely impact the quantity or quality of the research will be a consideration when scoring proposals. Individuals and organizations that do not claim an indirect rate may charge as a direct expense the incremental cost of obtaining the insurance coverage specified in the Sample Grant Agreement.

For the purpose of this program, general and administrative expenses (G&A) are considered an indirect cost.

In the Budget Narrative, indicate any exclusions from the indirect cost base (e.g., subcontracts, graduate student fee remission, equipment, facilities lease costs).

Please double-check your figures to ensure that the categories add up. Total amount requested cannot exceed $75,000.

California Energy Commission PIER-EA Environmental Exploratory Grant Program **PROJECT PERSONNEL**	**FORM D**

List all key technical personnel on the project who are critical to the success of the work, including the Principal Investigator and Project Manager, if they are separate individuals; indicate a descriptive title after each name (e.g., Electrical Engineer; Graduate Student Research Associate, etc.). In the space below, provide a brief summary of qualifications of the project team, including any existing facilities or specialized equipment that will be used on the project. Do not exceed one page. Attach Résumés (Curriculum Vitae) for all key personnel, not to exceed two pages each.

1. List of Key Personnel and Titles

2. Summary of Team Qualifications

California Energy Commission PIER-EA Environmental Exploratory Grant Program **RECOMMENDED REVIEWERS**	**FORM E**

The grant applicant has the option to recommend technical reviewers that they would like the EEGP Administrator to consider when deciding which technical reviewers to use for evaluating their proposal. The EEGP Administrator retains final decision authority on selecting reviewers. Please email this form to the EEGP Administrator.

First Recommendation

Name:	Address:
Phone: Fax:	
Email:	
Organization:	
Position/Title:	

Indicate why you consider this individual qualified in the subject area proposed.

Second Recommendation

Name:	Address:
Phone: Fax:	
Email:	
Organization:	
Position/Title:	

Indicate why you consider this individual qualified in the subject area proposed.

Third Recommendation

Name:	Address:
Phone: Fax:	
Email:	
Organization:	
Position/Title:	

Indicate why you consider this individual qualified in the subject area proposed.

FORM E
INSTRUCTIONS

Recommended Reviewers

General Information:

- This form is optional. Please email this form to the EEGP Administrator.

- The intent of this form is to assist the EEGP Administrator in identifying potential qualified technical reviewers for proposals. Of particular interest are individuals that possess expertise in very narrow and specialized areas of science and/or technology that the typical technical reviewer of energy research may not be familiar with.

- Do not recommend individuals that would have a conflict of interest in reviewing your proposal or would even give the appearance of conflict of interest or bias.

- The EEGP Administrator retains the final authority to select the technical reviewers.

Appendix 1. Technical Evaluation Criteria

	Points 0-10
1. Degree to which the research proposal accurately and completely identifies an important California public interest environmental issue related to the generation, transmission, distribution, and use of electricity. The proposal completely and accurately describes the environmental issue to be addressed by the proposed research, including the relationship of the issue to the generation, transmission, distribution, and use of electricity in California. The scientific description of the issue is in sufficient detail to determine that there are significant energy-related environmental public benefits that could be derived by further research built on the findings from the proposed project. (To the extent possible, the importance of the problem may be based on reviewers' evaluation of quantitative benefits (e.g. amount of NOx reduced)).	**Weighting Factor: 1.5** **Possible Points: 15**
2. Degree to which the proposed research identifies Barriers, Issues, and/or Knowledge Gaps. To the reviewer's knowledge, the proposal does not duplicate research. The proposal shows that the project approach is innovative or unique. To the reviewer's knowledge, the proposal clearly identifies, describes and quantifies (where possible) the barriers, issues and/or knowledge gaps. To the reviewer's knowledge, the barriers, issues, and/or knowledge gaps are directly relevant and important to obtaining a better understanding of the issue in California.	**Weighting Factor: 1.0** **Possible Points: 10**
3. Degree to which the proposed research identifies clear, meaningful, and measurable objectives. The proposal lists and describes clear and measurable objectives that will: • Support the early development of promising, new scientific concepts; • Lay the foundation for larger-scale research; • Be useful in determining the need for new PIEREA planning efforts (roadmaps); • Improve understanding of key processes that affect environmental quality in California as a result of electricity generation, transmission, distribution, and use; and/or • Provide information in key areas necessary for more informed decision and policy making. The research methods are appropriate for achieving the project's objectives and goals.	**Weighting Factor: 1.5** **Possible Points: 15**

4. The Project Narrative (Section 3.4), Products and due dates (Section 3.4 Item 5), Budget Summary and Budget Forms (Section 3.6 and Form C) are appropriate and reasonable. The Project Narrative demonstrates a clear, appropriate and complete effort. The Project Narrative is composed of a series of interconnected, logical, and discrete tasks. The Project Narrative lays out an approach and plan that is practical and feasible for accomplishing the stated goals and objectives. The Work Schedule reasonably appropriates time and budget with respect to the sequences of tasks, time allocated per task, and the use of labor, equipment, and facilities. If the research involves a particular environmental aspect – the schedule fits the necessary time of year to conduct the research. The budget is appropriate considering: (1) the significance of the barriers, issues, and/or knowledge gaps being addressed, (2) the project's objectives and goals, and (3) the level of effort described in the Project Narrative. The budget shows that key personnel will be committed to the project for the appropriate number of hours and functions to accomplish the tasks and deliverables, and the activities described in the Project Narrative.	**Weighting Factor: 2.5** **Possible Points: 25**
5. The Principal Investigator and the Project Team are well qualified to conduct the project (Form D). The applicant describes in detail, with substantiation, his or her past and current work in the research subject area. Accomplishments (not just activities) are described. The proposal demonstrates the applicant's awareness of current and prior work by others in the proposed research area. The proposal convincingly demonstrates, based on education, training and past experience, that the applicant and project team are capable of conducting all technical, administrative, and budgetary functions and responsibilities, including the ability to control cost, maintain the schedule, and report results and accomplishments in an effective manner. Degree to which the proposal is clearly written and internally consistent.	**Weighting Factor: 1.5** **Possible Points: 15**

6. Degree to which the project is likely to succeed. To the reviewer's understanding, the likelihood that this project is likely to succeed.	**Weighting Factor: 1.0** **Possible Points: 10**
7. Overall technical merit Taking all factors into consideration, including those cited above, the overall technical merit of the proposal.	**Weighting Factor: 1.0** **Possible Points: 10**
Total Technical Reviewer Points:	

Appendix 2. Programmatic Evaluation Criteria

	Points 0-10
1. Degree to which the research proposal accurately and completely identifies an important California public interest environmental issue related to the generation, transmission, distribution, and use of electricity. The proposal targets an important environmental issue. The public benefits derived by research built on the findings from the proposed project in addressing/resolving the energy-related environmental problem are significant.	**Weighting Factor: 1.5** **Possible Points: 15**
2. Degree to which the proposal identifies Barriers, Issues, and/or Knowledge Gaps. To the reviewer's knowledge, the proposal does not duplicate research. The proposal shows that the project approach is innovative or unique. To the reviewer's knowledge, the proposal clearly identifies, describes and quantifies (where possible) the barriers, issues, and/or knowledge gaps. To the reviewer's knowledge, the barriers, issues, and/or knowledge gaps, are directly relevant and important to obtaining a better understanding of the issue in California.	**Weighting Factor: 1.0** **Possible Points: 10**
3. Degree to which the proposed research identifies clear, meaningful, and measurable objectives. The proposal lists and describes clear and measurable objectives that will: • Support the early development of promising, new scientific concepts; • Lay the foundation for larger-scale research; • Be useful in determining the need for new PIEREA planning efforts (roadmaps); • Improve understanding of key processes that affect environmental quality in California as a result of electricity generation, transmission, distribution, and use; and/or • Provide information in key areas necessary for more informed decision and policy making. The research methods are appropriate for achieving the project's objectives and goals.	**Weighting Factor: 1.5** **Possible Points: 15**
4. The Project Narrative (Section 3.4), Products and due dates (Section 3.4 Item 5), Budget Summary and Budget Forms (Section 3.6 and Form C) are appropriate and reasonable. The Project Narrative demonstrates a clear, appropriate and complete effort.	**Weighting Factor: 1.5** **Possible Points: 15**

The Project Narrative is composed of a series of interconnected, logical, and discrete tasks. The Project Narrative lays out an approach and plan that is practical and feasible for accomplishing the stated goals and objectives. The Work Schedule reasonably appropriates time and budget with respect to the sequences of tasks, time allocated per task, and the use of labor, equipment, and facilities. If the research involves a particular environmental aspect – the schedule fits the necessary time of year to conduct the research. The budget is appropriate considering: (1) the significance of the barriers, issues, and/or knowledge gaps being addressed, (2) the project's objectives and goals, and (3) the level of effort described in the Project Narrative. The budget shows that key personnel will be committed to the project for the appropriate number of hours and functions to accomplish the tasks and deliverables, and the activities described in the Project Narrative.	
5. The Principal Investigator and the Project Team are well qualified to conduct the project (Form D). The applicant describes in detail, with substantiation, his or her past and current work in the research subject area. Accomplishments (not just activities) are described. The proposal demonstrates the applicant's awareness of current and prior work by others in the proposed research area. The proposal convincingly demonstrates, based on education, training and past experience, that the applicant and project team are capable of conducting all technical, administrative, and budgetary functions and responsibilities, including the ability to control cost, maintain the schedule, and report results and accomplishments in an effective manner. Degree to which the proposal is clearly written and internally consistent.	**Weighting Factor: 1.0** **Possible Points: 10**
6. Degree to which the project is likely to succeed. To the reviewer's understanding, the likelihood that this project is likely to succeed.	**Weighting Factor: 1.0** **Possible Points: 10**
7. Overall merit. The proposal is original and will enhance the PIER-EA's portfolio of projects.	**Weighting Factor: 2.5** **Possible Points: 25**
Total Programmatic Reviewer Points:	

Appendix 3. Research Restrictions

The following research projects are restricted from awards from the EEGP program. These restrictions apply in order to prevent the same proposal from being submitted to multiple programs within PIER, to avoid institutional confusion over which PIER program the applicant is soliciting, and to avoid the duplication of research. The research restrictions are listed in the following order: Land-use and Habitat, Aquatic Resource, Air Quality, Global Climate Change, and Environmental Exploratory Projects 2003. For more information about PIER research see the PIER web page www.energy.ca.gov/pier/energy/index.html.

LAND-USE AND HABITAT

- Avian Transmission System Mitigation Program
- Raptor Electrocution on Power Lines: Problem Assessment, Mitigation, and Monitoring
- Revising and Updating Edison Electric Institute publication: "*Suggested Practices for Raptor Protection on Powerlines: The State of the Art in 1996*
- Monitoring Raptor Facilities and Validating a Preliminary Model for Predicting Electrocution on SCE and PG&E Distribution Facilities"
- Evaluating and Reducing Avian Collisions at Cosumnes River Preserve
- Raptor Mortality Field Guide.
- Bird Electrocution Mitigation Web Site and Product Encyclopedia EPRI
- Bird Strike with Conductors Indicator
- Developing a Risk Prediction Model to Reduce Bird Fatalities in the Altamont Pass Wind Resource Area.
- Assessment of Nitrogen Deposition: Modeling and Habitat Assessment
- Life-Cycle Assessment of Wildland Biomass for Electric Power
- Roadmap for Developing Sustainable Urban Energy Planning Guidelines for Local Communities in California and Identification of Future Research Needs.

AQUATIC RESOURCES

- Bioassessment for Hydropower Use
- Ecological effects of pulsed or manufactured flows from hydropower facilities.
- Advanced research on power plant cooling.
- Improved water forecasting for better hydropower production (INFORM).
- Updated Water Quality Parameters for Cooling Towers
- Trihalomethane Formation in Treated Cooling Water

AIR QUALITY

Outdoor Air Quality Projects

- Back-Up Generators/Distributed Generation Air Quality Methodology Study
- Central California Ozone Study
- Air Quality Impacts of Distributed Generation in Southern California
- Test Methodology Development and Characterization of Fine and Ultrafine Particulate Matter from Gas-Fired Combustion
- Portable/Low-Cost Instrumentation Development
- Improvement of Short Range Dispersion Models in Urban Environments
- Heat Island Evaluation

Indoor Environment Quality Projects

- Portable/Low-Cost Instrumentation Development
- Ventilation Practices and Housing Characteristics in New California Homes
- Analysis of Building Characteristics and Indoor Environmental Quality in California Classrooms
- Emissions from Office Equipment
- Thermal Displacement Ventilation for CA K-12 Schools
- Ventilation Research to Support Title-24 Building Energy Efficiency Standards

CLIMATE CHANGE

- Protocol to Inter-compare Regional Climate Models
- Development of a dynamic ecosystem model for California
- Enhanced meteorological and hydrological monitoring
- Measurement, Classification, and Quantification of Carbon Market Opportunities: Terrestrial Ecosystems
- Carbon Sequestration in Agricultural Soils
- California Environmental Sensing and Communications
- Preliminary Economic Analyses of CC Impacts
- Preliminary Climactic Data Collection, Analyses, and Modeling

Carbon Sequestration

- Development of Geologic Baseline Data
- Development of a Risk Assessment Framework
- Characterization of Large CO2 Point Sources
- Economic Assessment of Geologic Sequestration Options
- Monitoring Protocols for Geologic Sequestration
- Assessment of Regulations for Geologic Sequestration
- Public Outreach for Sequestration
- Decision Analysis for Selection of Option

ENVIRONMENTAL EXPLORATORY PROJECTS 2003

- Reclaim and reuse of spent (discharged) water in power plants and boilers

- Impact of transmission line corridors on endangered plant species and related management issues
- Environmental analysis of hydrogen renewable technologies
- Life cycle energy assessment of alternative water supply systems
- Assessment of environmental benefits of restoration to mitigate or avoid environmental impacts caused by power plant cooling water intake structures
- Optimization of product life cycles to reduce emissions
- Identification of alternative frameworks and metrics for defining energy efficiency
- Development of an atmospheric carbon monitoring plan (including maps and monitoring locations)
- Development of a methodology for quantifying air pollutant emissions from electricity consumption that result from various water management choices
- Development of an industry-specific protocol for reporting of greenhouse gas emissions for key industries